Senna siamea

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Senna siamea (Lam.) Irwin et Barneby

Taxonomy and nomenclature

Family: Fabaceae (Caesalpinioideae)

Synonyms: *Cassia siamea* Lam.; *Cassia florida* Vahl.; *Senna sumatrana* Roxb.; *Cassia arayatensis* Naves.

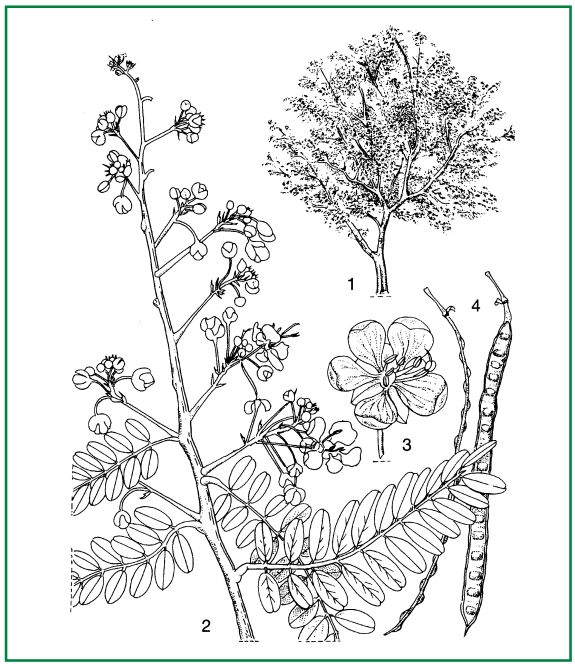
Vernacular/common names: Bombay blackwood, iron wood, kassod tree, Siamese senna, Thailand shower, yellow cassia (Eng.); casse de Siam (Fr.).

Distribution and habitat

Native to South and Southeast Asia, exact natural distribution obscured by cultivation. Widely planted throughout the tropics.

It can grow under a wide range of climatic conditions, but performs particularly well in lowlands with a monsoon climate with annual rainfall of 500-2800 mm, mean annual temperature of 20-31°C and dry periods of 4-8 months. It should not be grown at altitudes above 1300 m and does not tolerate temperatures below 10°C.

Prefers moist, well-drained, fertile soils with pH 5.5-7.5. It can grow on degraded, infertile soils but it is not recommended as this species is not nitrogen-fixing. Susceptible to strong winds because of the shallow root system.



1, Tree habit; 2, flowering and fruiting branch; 3, flower; 4, Pods. From: Plant Resources of South-East Asia.

Uses

The wood is dense and excellent for fuel, although it produces some smoke when burning. The heartwood is decorative and durable. The foliage is used for green manure and fodder for cattle, sheep and goats but is toxic for pigs and poultry.

The species is also used for erosion control, land reclamation (including abandoned mine areas), shade, shelter, ornamental and as host for sandalwood. Although not a nitrogen-fixing species it is suitable for agroforestry and is used in taungya systems and as a shade tree in tea and coffee plantations.

Botanical description

Medium-size, evergreen tree, 10-12 m tall, occasionally reaching 20 m. The bole is short; crown dense and rounded at first, later becoming irregular and spreading; young bark grey and smooth, later with longitudinal fissures. Leaves alternate, 15-30 cm long, compound, with 6-14 leaflets each ending in a tiny bristle. Flowers bright yellow, in large, up to 60 cm long, upright, pyramid-shaped panicles.

Fruit and seed description

Fruit: flat, indehiscent pod, 5-30 cm long, constricted between the seeds. About 20 seeds per pod.

Seed: bean-shaped, greenish-brown, 8-15 mm long. There are 35,000-45,000 seeds/kg.

Flowering and fruiting habit

Flowering and fruiting begin at the age of 2-3 years. Flowering occurs mainly in the hot season but in many places it flowers abundantly throughout the year.

Harvest

When the pods have turned brown, they can be harvested from the tree. It is also possible to collect mature, half opened pods from the ground.

Processing and handling

After harvest the pods are dried in the sun for a few days until they open and release the seed.

Storage and viability

The seeds are orthodox and can be stored for several years in hermetic containers at ambient temperature with 11-15 % mc.

Dormancy and pretreatment

Fresh seed requires no pretreatment but stored seed need scarification by nicking or with boiling water followed by soaking in cold water for 24 hours.

Sowing and germination

It is important that the seeds are sown in full sunlight, as even a little shade will reduce germination considerably. The seeds can be sown directly in lines or patches at a depth of 4-5 cm and thinned to 30 cm spacing at the end of the first rains and to 1.8 x 1.8 m the following rainy season.

In arid areas, container-grown stock is recommended e.g. in polythene bags with a mixture of forest soil and decomposed leaf litter. Regular watering is important. The seedlings are ready for outplanting when they are 30-35 cm tall. It is also possible to use stumps for planting. Direct seeding is often used to establish plantations of this species.

Phytosanitary problems

The seeds are susceptible to attacks from insects such as *Caryedon lineaticollis* and *Bruchidius maculatipes.*

Selected readings

Faridah Hanum, I. and van der Maesen, L.J.G. (eds.), 199**7.** *Plant Resources of South-East Asia. No. 11. Auxillary plants. Leiden, Netherlands: Backhuys.*

Hassain, M.K., 1999. *Senna siamea – a widely used legume tree. Fact sheet 99-04. FACT Net, Winrock International.*

Padma, V. et al., 1996. *Studies on pre-sowing seed treatments in three species of Cassia*. Seed Research, 24(1): 51-54.

Sosef, M.S.M., Hong, L.T. and Prawirohatmodjo, S. (eds), 1998. *Plant Resources of South-East Asia. No 5(3). Timber trees: lesser-known timbers. Leiden, Netherlands; Backhuys Publishers.*

Troup, R.S. 1921. *The Silviculture of Indian Trees. Clarendon press, Oxford, U.K. vol. 11, p. 372*

Ornamental tree. Photo: Rafael T. Cadiz

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